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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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08/974,545 11/19/97 FARMER C 2207/4641

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WASHINGTON DC 20005

EXAMINER

LEA EDMONDS.L

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 10/17/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/974,545

Applicant(s)

FARMER, CHRISTOPHER B.

Examiner

Lisa Lea-Edmonds

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sangveraphunsiri. With respect to claims 16 and 17, Sangveraphunsiri discloses the method steps as claimed (see for example figures 21 and 22).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sangveraphunsiri in view of Hayakawa et al.. With respect to claims 1-4 and 8, Sangveraphunsiri discloses a computer system with a processor cartridge (520) displaced from the motherboard and

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having an edge connector (546), a processor (108), a motherboard connector (548') to be mounted on a motherboard (104), a lock (see for example figure 15), and guides to restrain the processor (see for example figures 21 and 22). However, Sangveraphunsiri lacks a clear teaching of the guide rails and guide slots structure and the motherboard being connected to the edge connector in a parallel orientation as claimed. Hayakawa et al. teaches a mounting board unit having a motherboard (1-1) with a connector (1-2) being connected in a parallel orientation to the edge connector (2-3) of a processor board (2-1), and guide rails, guide slots, and the motherboard being connected to the edge connector in a parallel orientation as claimed (see for example any of figures 1-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Hayakawa et al. into the apparatus of Sangveraphunsiri to protect the connectors from damage do to misalignment. With respect to claim 5, both Sangveraphunsiri and Hayakawa et al. teach a case having an interior side and an exterior side, however neither teaches the processor being visible from the exterior side. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the processor visible from an external side to allow the user and/or the repair person to select the correct model processor prior to repair. With respect to claims 9-11, Sangveraphunsiri teaches a processor cartridge having a lock (572) and a plate (510) covering the slot, however, Sangveraphunsiri lacks the lock being a teeth lock or a spring lock and the plate being clear. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any of the well known means to secure the cartridge processor into the computer to prevent

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theft and also to provide the computer with a clear slot cover to allow the user to view the cartridge processor.

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sangveraphunsiri in view of Hayakawa et al. as applied to claim 1 above, and further in view of Feightner et al.. With respect to claims 6 and 7, Sangveraphunsiri in view of Hayakawa et al. teaches the invention as claimed in claim 1, however Sangveraphunsiri in view of Hayakawa et al. lacks the processor and/or the motherboard having a heat sink. Feightner et al. teaches a heat sink support being connected to the processor via the motherboard (see for example column 3 lines 20-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Feightner et al. into the apparatus of Sangveraphunsiri in view of Hayakawa et al. to provide the processor and/or motherboard with a heat sink as it is a well known devices use to remove heat.

6. Claims 12-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sangveraphunsiri in view of Hayakawa et al. and further in view of Freer et al.. With respect to claims 12-15, Sangveraphunsiri discloses a computer system with a processor cartridge (520) displaced from a mother board and having an edge connector (546), a processor (108), a motherboard connector (548') to be mounted on a motherboard (104), a lock (see for example figure 15), and guides to restrain the processor (see for example figures 21 and 22). However, Sangveraphunsiri lacks a clear teaching of the guide rails and guide slots structure and the motherboard being connected to the edge connector in a parallel orientation and a motherboard

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having a receiving slot for receiving a processor as claimed. Hayakawa et al. is relied upon for its teachings of a mounting board unit having a motherboard (1-1) with a connector (1-2) being connected in a parallel orientation to the edge connector (2-3) of a processor board (2-1), and guide rails, guide slots, and the motherboard being connected to the edge connector in a parallel orientation as claimed (see for example any of figures 1-5). Freer et al. teaches a motherboard having a receiving slot for receiving a processor (see for example any of figures 4-6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Hayakawa et al. and Freer et al. into the apparatus of Sangveraphunsiri to protect the motherboard and processor connectors from damage due to misalignment. With respect to claim 18, the apparatus of Sangveraphunsiri as modified by the teachings of Hayakawa et al. and Freer et al. would inherently teach the method claims as claimed.

Response to Arguments

7. Applicant's arguments filed 09/02/00 have been fully considered but they are not persuasive. With respect to applicant's arguments, the examiner believes that the above rejection of claims teaches the claimed invention. The proposed modification of Sangveraphunsiri by substituting the perpendicular edge connector with the parallel edge connector of Hayakawa which would allow a processor and/or other electronic devices to be connected to the motherboard in a parallel relation. With respect to applicant's argument toward Sangveraphunsiri's teaching of the module being vertical to the motherboard, the examiner

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believes Hayakawa's teaching of a motherboard with a connector which allows for a parallel connection, as is well known in the art, would in fact motivate someone of ordinary skill in the art to modify the motherboard edge connector in such a fashion as it has been held that where a part of a device (in this instant case both the motherboard and/or its edge connector) may be relocated (in a position that would allow for parallel connection) without modification to the operation of the device, such a relocation is considered to have been within the skill of the art. *In re Japikse*, 86 USPQ 70 (1950). Also, as seen in Sangveraphunsiri figures 21 and 22, the processor cartridge (520) is both horizontal/parallel to and displaced from the motherboard. Thus giving one skilled in the art motivation to incorporate the teachings of Hayakawa or merely to remove the cable connector and make a direct connection between the motherboard and the processor cartridge. With respect to applicant's argument toward the elements stated concerning the apparatus of Hayakawa, it is noted that Hayakawa et al. is relied upon for its teaching of a motherboard having an edge connector which allows for parallel connection. The examiner does not believe that any claimed limitation has been overlooked. The examiner agrees that claim 16 specifically requires an insertion into a connector that is on the motherboard, however, the applicant fails to claim that this "insertion" is one of "direct" means. Meaning any and all other intermediate connection means are not allowed or prohibited from the construction of this instant invention. Therefore, the examiner believes that the above rejection stands as Sangveraphunsiri teaches a computer system with a processor cartridge (520) displaced from the motherboard and having an edge connector (546), a processor (108), a motherboard connector (548') to be

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mounted on a motherboard (104), a lock (see for example figure 15), and guides to restrain the processor (see for example figures 21 and 22). Although, Sangveraphunsiri teaches an intermediate connector structure, the applicant has not claimed the instant invention is such as to omit the structure. Also, the added connector structure taught in Sangveraphunsiri adds to the flexibility of the insertion system and does not teach away from the claimed arrangement in any way. If the applicant is unclear and believes a telephone interview could help, the applicant is invited to call the examiner at (703) 305-0265.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

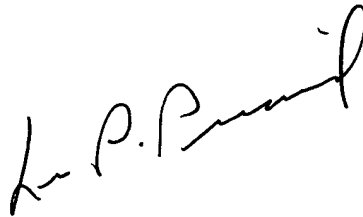
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa Lea-Edmonds whose telephone number is (703) 305-0265. The examiner can normally be reached on Monday - Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, L. Picard, can be reached on (703) 308-0538. The fax phone number for this Group is (703) 305-3431,32

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-1782.



LL-E



October 12, 2000

Leo P. Picard
Supervisory Patent Examiner
Technology Center 2800